

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS:

Amendments shown by strikethrough (for deleted matter) or underlining (for added matter).

1. (Currently Amended): A nitride glass with the general formula $\alpha_x\beta_y\gamma_z$, wherein α is at least one electropositive element chosen from the group consisting of alkali metals Na, K and Rb, alkaline earth metals Be, Mg, Ca, Sr and Ba, transition metals Zr, Hf, Nb, Ta, W, Mo, Cr, Fe, Co, Ni, Zn, Sc, Y, and La, main group elements Pb, Bi, and f elements Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa and U;

β is at least one element chosen from at least one of the elements of the group consisting of Si, B, Ge, Ga and Al; and

γ is N or N together with O, whereby the atomic ratio of O:N is in the interval from 65:35 to 0:100.

2. (Currently amended): A nitride glass according to claim 1, characterised in that wherein α is chosen from the group consisting of Lu, Mg, Y, Sc, Nd, Gd, Eu, Er, Tb, Tm, Dy, Yb, Th, Pa, Ca, Sr, Ba, La, Pr, Ce, Sm, Mn and Ho.

3. (Currently amended): A nitride glass according to claim 2, wherein claims 1-2, characterised in that α is chosen from the group consisting of Ca, Sr, Ba, La, Pr, Ce, Sm, Mn and Ho.

4. (Currently amended): A nitride glass according to claim 1, wherein anyone of claims 1-3, characterised in that the ratio $\alpha:\beta$ is in the interval from 30:70 to 60:40, preferably in the interval from 41:59 to 60:40.

5. (Currently amended): A nitride glass according to claim 1, wherein anyone of claims 1-4, characterised in that the ratio $\beta:\gamma$ is in the interval from 33:67 to 22:78.

6. (Currently amended): A nitride glass according to claim 1, wherein anyone of claims 1-5, characterised in that β consists of comprises Si.

7. (Currently amended): A nitride glass according to claim 1, wherein the nitride glass has a anyone of claims 1-6, characterised in that the hardness value for the glass is above 5 Gpa, preferably above 9.9 Gpa, and most preferably above 12.3 Gpa.

8. (Currently amended): A nitride glass according to claim 1, wherein the nitride glass has a anyone of claims 1-7, characterised in that the refractivity index of the glass is above 1.4, preferably above 1.9, and most preferably above 2.2.

9. (Currently amended): A nitride glass according to claim 1, characterised in that wherein the nitride glass possesses magnetic and/or magnetooptic properties; and in that α contains comprises at least one element chosen from the group consisting of Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Pa, U and Mn.

10. (Currently amended): A method for preparing a nitride glass according to claim 1, comprising: anyone of claims 1-9, comprising the steps of

- a) mixing chemicals corresponding to the desired composition to form a mixture by using α as a pure metal and/or the corresponding metal nitrides or metal hydrides or any other compound that transforms to the corresponding nitride in nitrogen atmosphere during the synthesis;
- b) heating said mixture compounds to a temperature of at least 1000 °C in the presence of nitrogen gas, thereby obtaining a melt;
- c) maintaining the temperature of step b) until the melt is mixed chemical compounds have formed a homogenous melt; and
- d) cooling the homogeneous melt to a temperature below the glass transition temperature of the glass while and using a cooling rate, that is sufficient in order to obtain a glass phase, wherein

α is a pure metal and/or a metal nitride, a metal hydride, or a compound that transforms to a metal nitride in step a) or b).

11. (Currently amended): A method according to claim 10, wherein characterised in that the temperature in steps b) and c) is above 1500 °C, and preferably above 1800 °C.

12. (Currently amended): A nitride glass with the general formula $\alpha_x\beta_y\gamma_z$, wherein α is at least one electropositive element chosen from the group consisting of alkali metals Na, K and Rb, alkaline earth metals Be, Mg, Ca, Sr and Ba, transition metals Zr, Hf, Nb, Ta, W, Mo, Cr, Fe, Co, Ni, Zn, Sc, Y, and La, main group elements Pb, Bi, and f elements Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, Th, Pa and U;

β is at least one element chosen from at least one of the elements of the group consisting of Si, B, Ge, Ga and Al; and

γ is N or N together with O, whereby the atomic ratio of O:N is in the interval from 65:35 to 0:100, wherein characterized by that the nitride glass is prepared by a method comprising the steps of:

a) mixing chemicals corresponding to the desired composition to form a mixture by using α as a pure metal and/or the corresponding metal nitrides or metal hydrides or any other compound that transforms to the corresponding nitride in nitrogen atmosphere during the synthesis;

b) heating said mixture compounds to a temperature of at least 1000 °C, preferably above 1500 °C, and more preferably above 1800 °C, in the presence of nitrogen gas, thereby obtaining a melt;

c) maintaining the temperature of step b) until the melt is mixed chemical compounds have formed a homogenous melt; and

d) cooling the homogenous melt to a temperature below the glass transition temperature of the glass and using a cooling rate, that is sufficient in order to obtain a glass phase, wherein

α is a pure metal and/or a metal nitride, a metal hydride, or a compound that transforms to a metal nitride in step a) or b).

13. (New): A nitride glass according to claim 1, wherein the ratio $\alpha:\beta$ is in the interval from 41:59 to 60:40.
14. (New): A nitride glass according to claim 7, wherein said hardness value is above 9.9 Gpa.
15. (New): A nitride glass according to claim 7, wherein said hardness value is above 12.3 Gpa.
16. (New): A nitride glass according to claim 8, wherein said refractivity index is above 1.9.
17. (New): A nitride glass according to claim 8, wherein said refractivity index is above 2.2.
18. (New): A method according to claim 11, wherein the temperature in step b) is above 1800 °C.
19. (New): A nitride glass according to claim 12, wherein the temperature in step b) is above 1500°C.
20. (New): A nitride glass according to claim 12, wherein the temperature in step b) is above 1800°C.